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IS 5927 (1981): Reduction Sleeves 7/24 Tapers to Morse
Tapers [PGD 32: Cutting tools]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

SPECIFICATION FOR REDUCTION SLEEVES 7/24 TAPERS TO MORSE TAPERS

(First Revision)

1. Scope — Covers the dimensions and requirements for reduction sleeves with external 7/24 tapers for tools with morse taper shanks.

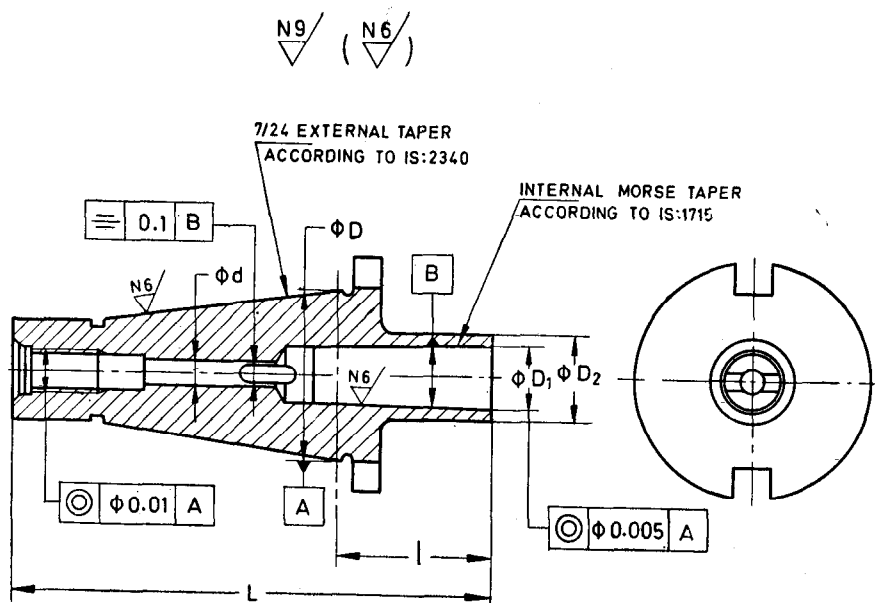
2. Types — Shall be of two types:

Type A — Reduction sleeves with 7/24 tapers to morse taper shank with tang end.

Type B — Reduction sleeves with 7/24 tapers to morse taper shank with tapped end.

3. Dimensions

3.1 For Type A



All dimensions in millimetres.

Designating Size	7/24 Taper External	Morse Taper Internal	D	D ₁	D ₂	d	l Max	L Max
30 × 1	30	1	31.750	12.065	25	6.2	50	118
30 × 2		2		17.780	32	10.3	50	118
30 × 3		3		23.825	40	12.5	70	138
40 × 1	40	1	44.450	12.065	25	6.2	50	143
40 × 2		2		17.780	32	10.3	50	143
40 × 3		3		23.825	40	12.5	65	158
40 × 4		4		31.267	48	17.0	95	188
45 × 1	45	1	57.150	12.065	25	6.2	50	157
45 × 2		2		17.780	32	10.3	50	157
45 × 3		3		23.825	40	12.5	65	172
45 × 4		4		31.267	48	17.0	75	182
45 × 5	50	5	69.850	44.399	63	21.0	125	232
50 × 2		2		17.780	32	10.3	60	187
50 × 3		3		23.825	40	12.5	65	192
50 × 4		4		31.267	48	17.0	70	197
50 × 5	60	5	107.950	44.399	63	21.0	105	232
60 × 3		3		23.825	40	12.5	70	277
60 × 4		4		31.267	48	17.0	70	277
60 × 5		5		44.399	63	21.0	70	277
60 × 6		6		63.348	80	25.0	100	307

Note — The figure is indicative of dimensions only and does not specify design features.

Adopted 24 July 1981

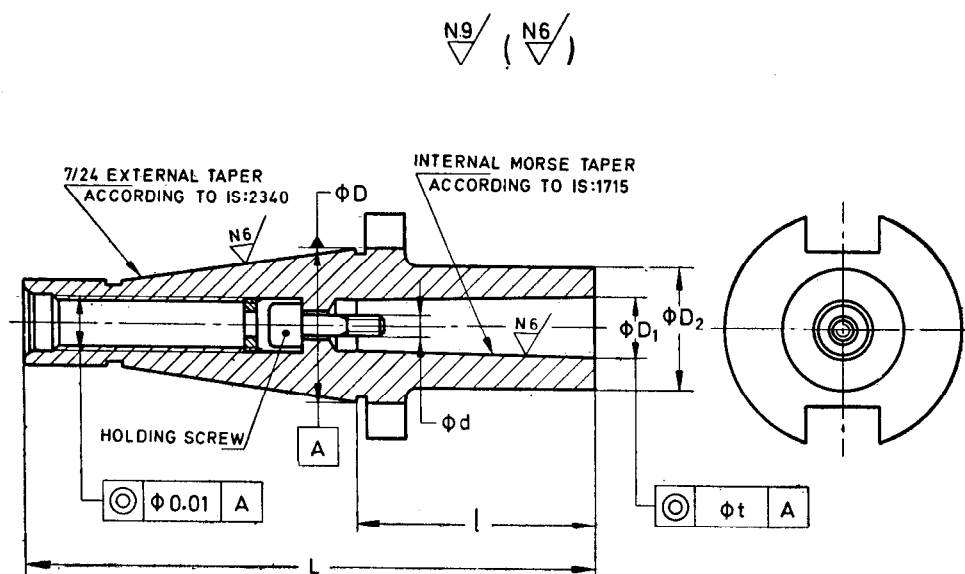
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3.2 For Type B



All dimensions in millimetres.

Designating Size	7/24 Taper External	Morse Taper Internal	D	D ₁	D ₂	d	L _{Max}	l _{Max}	t
30 × 1	30	1	31.750	12.065	25	M6	118	50	0.012
30 × 2		2		17.780	32	M10	118	50	0.012
40 × 1	40	1	44.450	12.065	25	M6	143	50	0.016
40 × 2		2		17.780	32	M10	143	50	0.016
40 × 3		3		23.825	40	M12	158	65	0.016
40 × 4		4		31.267	48	M16	188	95	0.016
45 × 2	45	2	57.150	17.780	32	M10	157	50	0.016
45 × 3		3		23.825	40	M12	157	50	0.016
45 × 4		4		31.267	48	M16	182	75	0.016
50 × 2	50	2	69.850	17.780	32	M10	187	60	0.020
50 × 3		3		23.825	40	M12	192	65	0.020
50 × 4		4		31.267	48	M16	212	85	0.020
50 × 5		5		44.399	63	M20	247	120	0.020
60 × 5	60	5	107.950	44.399	63	M20	292	85	0.020
60 × 6		6		63.348	80	M24	327	120	0.020

Note — The figure is indicative of dimensions only and does not specify design features.

4. Material — Carbon steel having tensile strength not less than 600 MPa* in the core after case-hardening.

5. Hardness — The hardness of tapered portions shall be 590 HV to 670 HV after case hardening.

5.1 The threaded portions shall be left unhardened.

6. General Requirements

6.1 The dimensions of 7/24 tapers shall be according to IS : 2340-1972 'Dimensions for self-release 7/24 tapers for milling arbors and tool shanks (first revision)'.

*1MPa = 0.1 kgf/mm² (approx).

6.2 The dimensions of morse tapers shall be according to IS : 1715-1973 'Dimensions for self-holding tapers (*first revision*)'.

6.3 The permissible deviations on dimensions with unspecified tolerances shall be of grade 'Medium' according to IS : 2102-1969 'Allowable deviations for dimensions without specified tolerances (*first revision*)'.

6.4 The reduction sleeves of Type B shall be supplied with a suitable wrench in order to facilitate the clamping of the tools.

6.5 The sleeves shall be manufactured in one piece and shall be free from cracks, burrs and other manufacturing defects.

7. Designation — A reduction sleeve of Type A having designating size as 45×4 and conforming to this standard, shall be designated as:

Reduction Sleeve A 45×4 IS : 5927

8. Marking — Shall be marked with the type, designating size as per 3.1 and 3.2 and manufacturer's name or trade-mark.

8.1 ISI Certification Marking — Details available with the Indian Standards Institution.

9. Preservative Coating and Packing

9.1 Each reduction sleeve shall be covered with a suitable rust-proofing material and wrapped in moisture proof paper.

9.2 Each reduction sleeve shall be packed in a carton bearing the type, designating size and manufacturer's name or trade-mark.

EXPLANATORY NOTE

This standard was first published in 1970. This revision has been necessitated to bring it in line with the work done at ISO level. In this revision, dimensions for reduction sleeves having 7/24 taper No. 30, 45 and 60 have also been included.

In the preparation of this standard considerable assistance has been derived from ISO 4202-1978 'Reduction sleeves with external 7/24 taper for tool with morse taper shank' and ISO 5415-1977 'Reduction sleeves with 7/24 external and morse internal taper and incorporated screw', issued by the International Organization for Standardization.